

Exhibit 4

**Excerpts from the Aug. 21, 2018
Deposition of Owen Astrachan
Taken in the *Rimini II* Case
REDACTED**

UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

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RIMINI STREET, INC., a
Nevada corporation,
Plaintiff,

vs.

No. 2:14-cv-01699-LRH-CWH

ORACLE, INTERNATIONAL
CORPORATION, a California
corporation, et al.,
Defendants.

_____/

DEPOSITION OF PROFESSOR OWEN ASTRACHAN

SAN FRANCISCO, CALIFORNIA

TUESDAY, AUGUST 21, 2018

REPORTED BY:

ANDREA M. IGNACIO, CSR, RPR, CRR, CCRR, CLR ~

CSR LICENSE NO. 9830

JOB NO. 2975945

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1 So I would stand by that statement of
 2 "generally not a derivative work."
 3 Q And when is pseudocode a derivative work?
 4 MR. VANDEVELDE: Calls for a legal
 5 conclusion. You can apply the sum -- assumed
 6 definition in your report.
 7 THE WITNESS: In -- in my rebuttal report, I
 8 apply analytic dissection. And if you gave me
 9 two files, one of which was pseudocode and one of
 10 which was not, I could apply the same methodology to
 11 determine if one was a derivative work that I applied
 12 in the situations that I did in my report.
 13 MR. SMITH: Q. At various points, your
 14 rebuttal report discusses the concept of know-how;
 15 right?
 16 A I believe that's correct, yes.
 17 Q And you opine that Oracle's experts' use of
 18 the term "cross-use" encompasses know-how; right?
 19 A That's generally something that sounds right.
 20 I'd have to look at my specific wording, but yes.
 21 Q How do you define the term "know-how"?
 22 A I don't know if I -- in my report, I have a
 23 definition. I would -- if I do have such a term in my
 24 report, then I'd be happy to rely on that.
 25 Q It's not in your report. That's why I'm

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1 asking you how you define the term.
 2 A My understanding of know-how is knowledge
 3 gained from performing an action.
 4 Q Would you agree with me that a printout of
 5 Oracle copyrighted code would represent more than
 6 know-how?
 7 MR. VANDEVELDE: Objection; vague.
 8 THE WITNESS: I think a printout of Oracle
 9 code would not be something that I considered nor --
 10 know-how. I don't have a "more" or "less" to
 11 associate with that.
 12 MR. SMITH: Okay.
 13 Q If a developer memorized Oracle copyrighted
 14 code and then retyped it somewhere else, would that be
 15 the use of know-how?
 16 A The definition of know-how I gave previously
 17 was knowledge gained from performing an action. I
 18 think I would not consider memorizing to be the
 19 knowledge gained. But obviously, it would adhere to
 20 that definition.
 21 Q So your definition is knowledge gained from
 22 performing something, but not memorization --
 23 excluding memorization; is that right?
 24 MR. VANDEVELDE: Asked and answered.
 25 THE WITNESS: I gave a very general

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1 definition of know-how, that I stand behind. I think
 2 that, if somebody memorized code and then wrote it
 3 down, that would not be what I meant by knowledge
 4 gained from performing an action.
 5 MR. SMITH: Q. Is it your opinion that
 6 Rimini is using only its own know-how to provide
 7 support and maintenance of Oracle software products to
 8 its customers?
 9 A I think in my reports, I talk about many
 10 things that Rimini does to support its customers.
 11 Q I understand that.
 12 But is it your opinion that it's using only
 13 its know-how?
 14 MR. VANDEVELDE: Misstates the report, and
 15 vague.
 16 THE WITNESS: No, it's not my opinion that
 17 Rimini is only using know-how. They write code.
 18 That's not know-how. They do many things as part of
 19 supporting their customers.
 20 MR. SMITH: Q. You're familiar with the term
 21 "MD5 hash"; correct?
 22 A Yes, I am familiar with MD5 hash.
 23 Q And an MD5 hash value is an identifier that
 24 marks a unique file; is that correct?
 25 MR. VANDEVELDE: Objection; vague.

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1 THE WITNESS: I wouldn't characterize it as
 2 an identifier. It can be used to identify a file.
 3 MR. SMITH: Q. Two files that have the same
 4 MD5 hash value are identical; correct?
 5 A That's correct.
 6 Q However, if there's even one difference
 7 between two files, such as an extra period or a space,
 8 the two documents would have different MD5 hash
 9 values; is that right?
 10 A That's correct.
 11 I want to make a small addendum, that we're
 12 in the realm of what occurs in -- every day, because
 13 there are people that have discovered ways to create
 14 files with the same MD5 hash, but that doesn't happen
 15 in actual everyday occurrence.
 16 So yes, a change in one character would
 17 change the MD5 sum.
 18 Q Okay. So therefore, I could copy 99 percent
 19 of one file, put it into another file, and the
 20 two files would have different hash values?
 21 A Any two different files have different hash
 22 values.
 23 Q Do you agree that updates for ERP software
 24 change over time?
 25 MR. VANDEVELDE: Objection; vague and

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1 confusing.

2 THE WITNESS: "Update" is a term that I've
3 used in my reports, and Ms. Frederiksen-Cross uses in
4 her reports. So if you're asking about a Rimini
5 update, those change over time.

6 MR. SMITH: Yeah.

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

4 MR. SMITH: Q. Is a DIF file or change set
5 consistent with software development best practices
6 for recording actual changes?
7 MR. VANDELDE: Objection; vague.
8 THE WITNESS: Software development best
9 practices encompass a wide variety of skills,
10 guidelines, practices. I think that the DIF file, and
11 the code that creates it, are consistent with best
12 practices.
13 MR. SMITH: Q. Can you tell what the actual
14 changes were to software code by looking at the DIF
15 file itself?
16 A A DIF file captures the changes between
17 two files, and by itself, with only the DIF file,
18 cannot be used to recreate the software that was used
19 to generate the DIF file.
20 Q You'd need to have the code before file as
21 well; right?
22 A That's correct. You must have the code
23 before file, as well as the DIF file, to generate the
24 code after file.
25 Q DIF files have no use for purposes of

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1 providing software updates without the code before
2 file?

3 MR. VANDEVELDE: Objection; vague.

4 THE WITNESS: The existence of a DIF file in
5 and of itself will capture the fact that an update was
6 made. So it has a purpose simply by existing.

7 MR. SMITH: Q. But that purpose cannot be
8 fulfilled unless you have the code before file?

9 A I've just spoken of multiple purposes that
10 the DIF file has. The existence of the DIF file, and
11 the readable material in it, will tell me something
12 about the fact that it was part of an update.

13 Actually, recreating the update, using the
14 applied DIF functionality, would use the DIF file for
15 a different purpose than the fact that its existence
16 tells me that an update was made.

17 Q Okay. You indicated now, and previously,
18 that you can read a DIF file. But it's just a
19 collection of numbers; right?

20 MR. VANDEVELDE: Objection; vague.

21 THE WITNESS: It is an XML file, and I can
22 look at those numbers and see what they are. There
23 is, I think, some header information in it, too.

24 MR. SMITH: Q. And looking at those numbers
25 to see what they are, can you do anything --

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1 MR. VANDEVELDE: Objection; vague.
2 MR. SMITH: Q. -- other than look at them?
3 MR. VANDEVELDE: Same objection.
4 THE WITNESS: The numerical parts of a DIF
5 file are used in the applied DIF functionality of it.
6 And so those numbers themselves are part of what would
7 happen when I use apply DIF to use the DIF file to
8 recreate the file in the code after folder.
9 MR. SMITH: Understood.

[REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

<p style="text-align: right;">Page 214</p> <p>1 purpose of software code. I think the purpose of</p> <p>2 software code is to be run and executed.</p> <p>3 On the other hand, software code is</p> <p>4 maintained, and so developers understand that it will</p> <p>5 be read by humans.</p> <p>6 But it's not -- its purpose is not to be read</p> <p>7 by humans. Its purpose is to be part of a program</p> <p>8 that's run and executed by a computer.</p> <p>9 MR. SMITH: Q. Is a better way to say it</p> <p>10 that software code is written so that it can be read</p> <p>11 by humans?</p> <p>12 MR. VANDEVELDE: Objection; vague.</p> <p>13 THE WITNESS: I think that developers in</p> <p>14 general understand that software is not written once</p> <p>15 and run many times, but it's written and maintained.</p> <p>16 And that, as general software development</p> <p>17 practice, it's understood that other developers will</p> <p>18 be reading that code, and thus, it should be readable.</p> <p>19 MR. SMITH: Okay.</p> <p>20 Q You indicate in your rebuttal report that</p> <p>21 it's your understanding that eight types of elements,</p> <p>22 that are deemed un-protectable, should be excluded</p> <p>23 from consideration as part of any assessment of</p> <p>24 substantial similarity through analytic dissection;</p> <p>25 right?</p>	<p style="text-align: right;">Page 216</p> <p>1 Q You haven't identified the eight elements in</p> <p>2 paragraph 205 in any published article; correct?</p> <p>3 A Are you asking if I've seen these in a</p> <p>4 published article?</p> <p>5 Q You have not --</p> <p>6 A Or --</p> <p>7 Q -- identified the eight elements in</p> <p>8 paragraph 205 in any published article?</p> <p>9 A I don't cite that.</p> <p>10 Q That you've written?</p> <p>11 A That I've written?</p> <p>12 Q Yes.</p> <p>13 A Oh, I have not written -- that's correct. I</p> <p>14 have not written about analytic dissection.</p> <p>15 Q And you haven't provided any speeches</p> <p>16 regarding analytic dissection, where you mention these</p> <p>17 eight excludable elements; correct?</p> <p>18 A That's correct.</p> <p>19 Q You came up with this list of eight elements</p> <p>20 for purposes of your expert witness services to</p> <p>21 Rimini; right?</p> <p>22 MR. VANDEVELDE: Misstates testimony; calls</p> <p>23 for a legal conclusions.</p> <p>24 And I'll instruct you not to divulge the</p> <p>25 contents of any communications that you had with</p>
<p style="text-align: right;">Page 215</p> <p>1 A If you're referring to paragraph 227 in my</p> <p>2 report --</p> <p>3 Q Yes.</p> <p>4 A -- I see seven bullets in paragraph 227.</p> <p>5 Q How about paragraph 205?</p> <p>6 A (Witness complies.)</p> <p>7 Yes. I see eight bullets in paragraph 205.</p> <p>8 Q And you don't cite anything to support your</p> <p>9 understanding that these eight elements should be</p> <p>10 deemed un-protectable in connection with any analytic</p> <p>11 dissection; correct?</p> <p>12 A I see no such citation here.</p> <p>13 Q And there's likewise no citation in</p> <p>14 paragraph 227; correct?</p> <p>15 A That's correct.</p> <p>16 Q Who is it that has deemed these elements, the</p> <p>17 eight elements you identify in paragraph 205, and the</p> <p>18 seven elements you identify in paragraph 227, as</p> <p>19 un-protectable?</p> <p>20 A In 205, I write that I understand this to be</p> <p>21 the case. And I don't recall whether that was me</p> <p>22 reading about analytic dissection and talking to</p> <p>23 counsel. So that would have been some process that</p> <p>24 went back and forth between my reading about analytic</p> <p>25 dissection and talking with counsel.</p>	<p style="text-align: right;">Page 217</p> <p>1 counsel.</p> <p>2 THE WITNESS: My analysis, using analytic</p> <p>3 dissection in this report, was for the purposes of</p> <p>4 this case; that's correct.</p> <p>5 MR. SMITH: Q. Is your report in this case</p> <p>6 the first time you've ever applied these</p> <p>7 eight elements of analytic dissection?</p> <p>8 A I have looked at some of these elements in</p> <p>9 other considerations, but I don't recall these</p> <p>10 eight specific elements. But certain -- some of them</p> <p>11 were part of the analysis that I did, for example, as</p> <p>12 part of Google v. Oracle.</p> <p>13 Q Did you provide these same eight elements in</p> <p>14 connection with your opinions in Oracle v. Google?</p> <p>15 A Not that I recall. I did not supply these</p> <p>16 same eight.</p> <p>17 Q Are you representing or opining that these</p> <p>18 eight elements listed in 205 -- paragraph</p> <p>19 205 constitute the accepted legal standard for</p> <p>20 analytic dissection?</p> <p>21 MR. VANDEVELDE: Calls for a legal</p> <p>22 conclusion.</p> <p>23 THE WITNESS: I'm making no legal conclusions</p> <p>24 or statements in my report.</p> <p>25 MR. SMITH: Q. Are you representing or</p>

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[REDACTED]

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[REDACTED]

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[REDACTED]

CERTIFICATE OF REPORTER

I, ANDREA M. IGNACIO, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth, and nothing but the truth in the within-entitled cause;

That said deposition was taken in shorthand by me, a disinterested person, at the time and place therein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision;

That before completion of the deposition, review of the transcript [x] was [] was not requested. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the event of this cause, and that I am not related to any of the parties thereto.

Dated: August 24, 2018



ANDREA M. IGNACIO,

RPR, CRR, CCRR, CLR, CSR No. 9830